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ARTICLE XI.

Improved Process for obtaining Potassium. By Robert Hare, M. D., Professor of Chemistry in the University of Pennsylvania. Read December 7, 1838.

IN evolving potassium, agreeably to Brunner's plan, I have substituted for the luting usually employed to protect the iron bottle, a cylinder of iron, which is made to surround the bottle; also a disk of the same metal, of a diameter and thickness equal to that of the cylinder.

The disk is supported by bricks of Kaolin. The bottle being vertical, the blast acts more equably on the surface of the iron, and the operator can, by additional fuel, protect any part from that undue exposure, to which the under surface is always liable, when the bottle is horizontal.

The potassium is received into an iron tube, of which the bore is two inches in diameter. This tube screws at one end into the bottle, and at the other is closed by a perforated plug, terminating in a small orifice. To this a leaden tube is fitted, which is so adjusted by bending, as to cause the vapour resulting from the burning of the gas, to go into the ash-hole. By these means the hydrogen, being ignited as soon as it comes over, serves as an index of the success and progress of the process. In this way no resort to naphtha is in the first instance necessary. The potassium is extricated from the tube by cooling it by affusion of water, detaching it from the bottle, and then closing the

end thus exposed by a cap, in which a suitable conical female screw is wrought.

The part of the tube containing the potassium is then made in a vertical position to occupy the axis of a cylindrical furnace, the end terminating, as above mentioned, in a tapering plug, being lowermost, and projecting below the bottom of the furnace. Before the temperature reaches redness, globules of the metal begin to descend; but to extricate the last portion, a white heat is requisite. The potassium may be received in bottles, kept full of hydrogen by a constant current, or in naphtha. The first portion, which descends before the temperature is high, can be more easily received without naphtha than the latter portion.